

HLD for MDC changes in CMD

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1 Introduction

Because of the landing of FIDs, MDC has to change to adapt to the new data structures and protocols. At the same time, compared with Lustre 1.6, a new LMV module is introduced into Lustre, and LMV now calls the interfaces provided by MDC.

2 Requirements

The main purpose of this task is to:

- Make MDC work in CMD.

3 Functional specification

3.1 Interface changes

All the interfaces of MDC will be changed because now Lustre clients use FIDs to identify an object, exchanging information with MDSes and OSSes with FIDs.

So the package format and size of RPC messages are also changed.

4 Use cases

5 Logic specification

5.1 Interface changes

We will change all the interfaces of MDC to use FIDs. Clients only use FIDs to identify objects.

6 State management

6.1 State invariants

6.2 Scalability & performance

6.3 Recovery changes

6.4 Locking changes

6.5 Disk format changes

6.6 Wire format changes

6.7 Protocol changes

6.8 API changes

6.9 RPCs order changes

7 Alternatives

8 Focus for inspections